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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/573,708	03/27/2006	Stephan Hueffer	286649US0PCT	2252

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EXAMINER	
NGUYEN, VU ANH	

ART UNIT	PAPER NUMBER
1796	

NOTIFICATION DATE	DELIVERY MODE
05/05/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/573,708	HUEFFER ET AL.	
	Examiner	Art Unit	
	Vu Nguyen	1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 February 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7,9-18,20 and 21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7, 9-18 and 20-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Acknowledgement is made of the Amendment filed 02/26/2009, wherein claims 1, 4, 6, 9, 15-18 and 20 have been amended, and claims 8 and 19 have been cancelled. Claims 1-7, 9-18 and 20-21 are pending in this application.

Claim Objections

2. Claims 1 and 16 are objected to because of the following informalities: The term "formulae" should be changed to "formula". Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-7, 9-18 and 20-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. In claims 1, 5 and 16, the recitation of "at least one oligomer of isobutene, at least one oligomer having an average molecular weight..." is indefinite as it is not clear whether the molecular weight is that of the isobutene oligomer or that of a second and unspecified oligomer.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. Claims 1-7, 9-10, 12-13, and 15-18 rejected under 35 U.S.C. 103(a) as being unpatentable over Danish et al. (US 6,336,942) in view of Dahmen et al. (US 5,575,939).

9. Corresponding to the limitations set forth in these claims, Danish et al. (Danish, hereafter) teaches an aqueous dispersion of a copolymer obtained by free radical copolymerization of 45-60 mol% of component A, 40-50 mol% of component B, 0-5 mol% of component C, wherein these mole percents are based on 100 mol% of A+B+C (col. 4, lines 47-52), and 25-50 mol% of component D, wherein this mole percent is based on the number of moles of carboxyl groups on the copolymer ABC (col. 6, lines54-56). Component A comprises C4-C6 ethylenically unsaturated carboxylic acid anhydride (col. 2, lines 46-58). Component B comprises, preferably, oligomers of

isobutene having an M_n of 1000-2300 (col. 3, lines 38-42). Component C comprises species recited in claims 4 and 17 (col. 3, lines 48-67; col. 4, lines 1-46). Component D comprises either an amine or an alcohol, wherein the latter includes fatty alcohol ethoxylates and alcohol propoxylates (col. 7). The water content in the aqueous dispersion is 30-90 wt% (col. 6, line 26). The anhydride groups are hydrolyzed and neutralized to an extent greater than 10% after the copolymerization or even during the polymerization by adding water then dilute aqueous bases (col. 6, lines 14-24). In the process for preparing the aqueous dispersion comprises, component A and, if used, component C, are initially taken. Monomer A and initiator are then metered in (col. 5, lines 61-67; col. 6, lines 1-9). The desired fraction of the anhydride groups are amidated or esterified with component D and the remaining anhydride groups are hydrolyzed and neutralized to the desired extent (col. 6, lines 46-53; col. 7, lines 58-64). The aqueous dispersion is used to treat leather and skins (col. 8, lines 9-46) and also used as dispersant for inorganic and organic pigments (col. 8, lines 47-67). It is noted that leather is a collagen fibrous material.

10. It is clear that Danish teaches all the limitations set forth in these claims but (1) fails to teach an embodiment where a specific fatty alcohol ethoxylate or propoxylate is used and (2) it fails to teach an article made of the disclosed leather.

11. Dahmen et al. (Dahmen, hereafter) teaches a process for softening/stuffing leather and fur skins by treatment with an aqueous dispersion of a copolymer obtained by copolymerizing (a) maleic anhydride with (b) C_{12}-C_{30} olefins or esters of (meth)acrylic acid and/or maleic acid with C_{12}-C_{30} alcohols, and optionally (c) hydrophilic monomers.

Either before, during, or after the polymerization, some of the anhydride groups are esterified with monovalent alcohols comprising at least one ether functionality. The residual acid or anhydride groups are subject to partial neutralization or hydrolysis. The resulting flowable dispersion has an active substance content of at least 40 wt% (Abstract). The alcohols having at least one ether functionality include the claimed species, and the preferred alcohols are butyl glycol and butyl diglycol (col. 4, lines 6-24). Dahmen further teaches that **[Motivations]** previous leather-treating aqueous polymer dispersions where the solvolysis of the maleic anhydride groups are done by amidation or by esterification with C_3-C_{30} alcohols absent of an ether functionality have low solid content (col. 1-2, bridging paragraph). The disclosed dispersion "provides excellent leather qualities with respect to softness, fullness, grain pattern and leather color" (col. 2, lines 62-65).

12. In light of such benefits, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified the dispersion taught by Danish by employing the ether-functional alcohols taught by Dahmen as component (D) so that the resulting dispersion has a high solid content and provides improved softness, fullness, grain pattern and leather color to the treated leather.

13. As to the article recited in claim 5, since leather is widely employed for upholstery and automatic parts and since the treated leather disclosed by Danish overcomes many disadvantages associated with prior art methods, including insufficient penetration (col. 1, lines 46-56), it would have been obvious to a person having ordinary skill in the art at

the time the invention was made to have employed the treated leather taught by Danish to prepare articles for use in upholstery and automatic parts.

14. Claims 11 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Danish et al. (US 6,336,942) in view of Dahmen et al. (US 5,575,939) as applied to claims 10 and 13 above, and further in view of Pabst et al. (WO 03/023070 A1). *Notes: Document US 2004/0194222 is being relied upon as an English equivalence of the document WO 03/023070 A1*.

1. Regarding the limitations set forth in these claims, the process of claim 10 and the substrate of claim 13 have been shown to be unpatentable over Danish in view of Dahmen as discussed above. Danish provides no preference as to the nature of the pre-treated leather. In the disclosed examples, the reference employs chrome-tanned cattle wet-blue (col. 10, line 35). However, Danish makes no mention of wet-white leather.

2. Pabst et al. (Pabst, hereafter) teaches polyisobutene as substitute for wool fat in stuffing agents for the production of leather (Title). The polyisobutene is modified with acid anhydride such as maleic anhydride or succinic anhydride [0078-0084]. The polyisobutene is made into a fatliquoring composition that can be employed to treat not only wet-blue leather but also wet-white leather [0073].

15. In light of such teachings and considering the dispersion taught by Danish not only has good penetration and water repellent properties but also enhanced fatliquoring and retannning action (col. 8, lines 9-14), and further in consideration of the

disadvantage of using wet-blue leather as related to disposal of chromium-contaminated (by)products, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have employed the aqueous dispersion taught by Danish for treatment of not only wet-blue leather but also wet-white leather so as to minimize the cost associated with disposal of chromium-contaminated wastes and byproducts and to improve the properties of the treated leather due to the superior properties of the treatment composition taught by Danish.

16. Claims 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Danish et al. (US 6,336,942) in view of Dahmen et al. (US 5,575,939) as applied to claim 2 above, and further in view of Keller et al. (US 2002/0016433).

17. Regarding the limitations set forth in these claims, the dispersion of claim 2 has been shown to be unpatentable over Danish in view of Dahmen as shown above. However, Danish fails to teach a use of the aqueous dispersion for impregnating sheet-like substrates such as concrete or brick.

18. Keller et al. (Keller, hereafter) teaches a composition for producing difficult-to-wet surfaces. The composition comprises mainly of polyisobutene and a finely divided powder (see Examples). The composition is used to impart low wettability to a surface [0014]. The surfaces to be treated with the disclosed composition are not limited and include not only leather but also porous surfaces such as concrete [0070].

19. In light of such teachings and considering that the aqueous dispersion taught by Danish has not only superior surface penetration and water-repellent properties but also

serves as excellent dispersant for finely divided powder such as pigments, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have employed the aqueous dispersion taught by Danish for treating not only leather and skins but also porous substrates such as concrete and brick so that the water-resistance property of these surfaces can be improved.

Response to Arguments

20. Applicant's arguments, filed 02/26/2009 (see Remarks, pages 13-17), with respect to claims 1-7, 9-18 and 20-21 have been considered but are moot in view of the new ground(s) of rejection. The deficiency of a specific ether-functional alcohol in the Danish reference is remedied by Dahmen as discussed above.

Conclusion

21. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vu Nguyen whose telephone number is (571)270-5454. The examiner can normally be reached on M-F 7:30-5:00 (Alternating Friday Off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on 571-272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Vu Nguyen
Examiner
Art Unit 1796

/David Wu/
Supervisory Patent Examiner, Art Unit 1796